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**CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE  
AGREEMENT/FEDERAL FACILITY AGREEMENT AND REMEDIAL  
INVESTIGATION/FEASIBILITY STUDY MONTHLY PROGRESS REPORT  
FOR JANUARY 1996**

02/20/96

DOE-0551-96  
DOE-FN        EPAS  
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REPORT



**Department of Energy**  
Fernald Environmental Management Project  
P. O. Box 398705  
Cincinnati, Ohio 45239-8705  
(513) 738-6357

**FEB 20 1996**

**DOE-0551-96**

Mr. James A. Saric, Remedial Project Director  
U.S. Environmental Protection Agency  
Region V - SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5th Street  
Dayton, Ohio 45402-2911

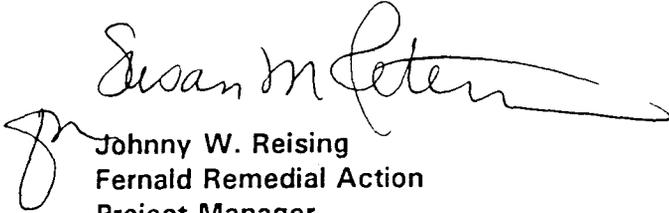
Dear Mr. Saric and Mr. Schneider:

**CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT AND REMEDIAL INVESTIGATION/FEASIBILITY STUDY MONTHLY PROGRESS REPORT FOR JANUARY 1996.**

Enclosure 1 is the consolidated CA/FFCA and RI/FS Monthly Progress Report which describes the activities accomplished January 1 through 31, 1996, and planned actions for the period of February 1996. Also, enclosed are diskettes containing Lotus 1-2-3 (Version 2.2) data files of the K-65 hourly data (see Enclosure 2).

If you or your staff should have any questions, please contact me at (513) 648-3139.

Sincerely,

  
Johnny W. Reising  
Fernald Remedial Action  
Project Manager

Enclosures: As Stated

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## cc w/encs:

R. L. Nace, EM-423/GTN  
Manager, TSPP/DERR, OEPA-Columbus  
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T. Hagen, FERMCO/65-2  
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G. Jablonowski, USEPA-V, 5HRE-8J  
F. Bell, ATSDR  
D. S. Ward, GeoTrans  
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R. D. George, FERMCO/52-2  
C. Little, FERMCO  
S. Stahlheber, FERMCO/52-2  
M. Yates, FERMCO

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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**Period Ending January 31, 1996**

**Introduction**

The Consent Agreement (CA) As Amended under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 120 and 106(a), the Federal Facility Compliance Agreement (FFCA), and the Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA) signed September 20, 1991, July 18, 1986, and November 19, 1991, respectively, require that monthly reports be submitted to the U.S. EPA regarding progress made to meet the provisions of those agreements. This report fulfills those requirements by describing actions undertaken at the Fernald Environmental Management Project (FEMP) during the period January 1 through January 31, 1996, and planned actions for the period February 1 through February 29, 1996.

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**WORK ASSIGNMENTS AND PROGRESS**

Descriptions of work progress are presented in the following sections and/or enclosures to this report:

- CA Section IX - Removal Actions
- CA Section X - Remedial Investigation/Feasibility Study
- Enclosure A - Waste Water Flows and Radionuclide Concentrations under CA Section XXIII.B
- Enclosure B - FFCA: Initial Remedial Measures and Other Open Actions
- Enclosure C - FFA: Control and Abatement of Radon-222 Emissions
- Enclosure D - Effluent Radiation Discharges to the Great Miami River

**CA Section IX. Removal Actions**

This section provides an update of activities associated with the implementation of Removal Actions (RAs) at the FEMP during January 1996. Information is presented for each of the Removal Actions identified in the Consent Agreement As Amended.

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**REMOVAL ACTION SUMMARY**

NO.	TITLE	SCOPE	STATUS
Phase I			
1	Contaminated Water Under FEMP Buildings	Pump water from extraction wells underneath Plants 2/3, 6, 8, and 9. Treat extracted water for volatile organic chemicals and uranium removal before discharge.	Removal Action pumping discontinued December 1995 per USEPA and OEPA approval
2	Waste Pit Area Run-off Control	Collect and treat contaminated storm water run-off from the waste pit area.	Operational: 7/30/92  Operation Ongoing
3	South Groundwater Contamination Plume	Part 1 - Install new alternate water supply and transfer to industrial user.	Operational: 12/7/92  Operation Ongoing
		Part 2 - Pump and discharge groundwater from South Plume.	Operational: 8/27/93  Operation RW 5 offline indefinitely
		Part 3 - Install and operate Interim Advanced Waste Water Treatment system to reduce uranium contaminant loading to the Great Miami River.	Operational: 7/30/92  Operation Ongoing
		Part 4 - Conduct groundwater monitoring and institutional controls by sampling private and existing RI/FS wells in the South Plume area and installing homeowner treatment systems.	Ongoing
		Part 5 - Conduct groundwater modeling and geochemical investigation to define the extent of the groundwater plume contaminated with uranium.	Completed: 2/25/94
		OU 2 Dispute Resolution Supplemental Project - Provide for partial treatment of the South Plume discharge to further reduce uranium flow to the Great Miami River.	Operational: 3/31/94  Operation Ongoing

• Shading denotes completed actions

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**REMOVAL ACTION SUMMARY**

NO.	TITLE	SCOPE	STATUS
4	Silos 1 & 2	Install bentonite cap to reduce and monitor radon emissions. Provide follow-on monitoring.	Cap Completed: 11/28/91
			Monitoring: Ongoing
5	Decant Sump Tank	Periodically remove liquid from K-65 decant sump tank.	Ongoing
6	Waste Pit 6 Residues	Eliminate potential airborne contamination by resubmerging exposed pit material.	Completed: 12/19/90
7	Plant 1 Pad Continuing Release	Stage I - Implement run-on/off control measures.	Completed: 1/17/92
		Stage II - Install new pad.	Completed: 12/4/92
		Stage III - Upgrade existing Plant 1 Storage Pad	Ongoing
Phase II			
8	Inactive Flyash Pile Control	Install plastic chain-link barrier and post warning signs.	Completed: 12/23/91
9	Removal of Waste Inventories	Disposition of low-level waste off-site.	Ongoing
10	Active Flyash Pile Controls	Phase I - Complete interim surface stabilization.	Completed: 6/29/92
		Phase II - Complete active flyash pile controls.	Maintenance: Ongoing
11	Pit 5 - Experimental Treatment Facility	Remove contents, structure, and filter material. Backfill and cap with clay cover.	Completed: 3/20/92
12	Safe Shutdown	Remove uranium and other material from former processing equipment and ship material and equipment off-site.	Ongoing
13	Plant 1 Ore Silos	Dismantle fourteen ore silos and their support structures.	Completed: 11/18/94
14	Contaminated Soil Adjacent to Sewage Treatment Plant Incinerator	Isolate or remove and dispose of contaminated soils from the vicinity of the sewage treatment plant.	Completed: 1/3/95
15	Scrap Metal Piles	Phase I - Disposition LLW ferrous/non-ferrous scrap metal	Completed: 11/14/94
		Phase II -	
		IIA - Containerization of scrap copper	Completed: 9/29/92
		IIB - Disposition of scrap copper	Final Report Submitted 12/8/95

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**REMOVAL ACTION SUMMARY**

NO.	TITLE	SCOPE	STATUS
16	Collect Uncontrolled Production Area Run-off - Northeast	Collect storm water run-off from the northeast perimeter of the former production area in the Storm Water Retention Basin.	Completed: 8/20/93
17	Improved Storage of Soil and Debris	Improve storage of existing and future generated soils and debris.	Ongoing
18	Control Exposed Material in Pit 5	Eliminate potential airborne contamination by re-submerging exposed pit material.	Completed: 5/13/93
Phase III			
19	Plant 7 Dismantling	Dismantle and dispose of the Plant 7 structure.	Completed: 8/18/95
20	Stabilization of UNH Inventories	Neutralize, filter and package UNH inventory.	Ongoing
21	Expedited Silo 3	Mitigate the potential release of hazardous waste material by covering and sealing dust collector hopper, removing dust collector, and capping and covering obvious release pathways.	Completed: 2/24/93
22	Waste Pit Area Containment Improvement	Stabilize south berm of Pit 4; regrade drainage ditches along Pits 3, 4, 5, and 6; and resurface road between Pits 3, 4, 5, and 6.	Completed: 7/30/93
23	Inactive Flyash Pile	Conduct field investigation to identify locations requiring material removal.	Completed: 4/30/92
24	Pilot Plant Sump	Remove liquid and sludge from the sump.	Completed: 1/14/94
25	Nitric Acid Tank Car and Surrounding Area	Remove residual contents from tank car and decontaminate and dispose of tank car.	Complete pending OEPA approval
26	Asbestos Removals (Asbestos Program)	Mitigate the potential for contaminant and migration of asbestos fibers.	Ongoing
27	Management of Contaminated Structures at the FEMP	Submit an Engineering Evaluation/Cost Analysis for managing contaminated structures. Identify alternatives for managing contaminated structures.	Final EE/CA Approved 8/16/93
28	Contamination at the Fire Training Facility	Remove, decontaminate, dispose, treat or store contaminated structures, equipment, and soil from the former Fire Training Facility.	Completed: 12/25/95
29	Erosion Control at Inactive Flyash Pile	Mitigate the threat of erosion induced slope failure and discharge of flyash to Paddy's Run.	Final Report Submitted to DOE 2/94  Maintenance: Ongoing
30	Seepage Control at the South Field and Inactive Flyash Pile	Minimize future groundwater contamination by intercepting contaminated seeps that drain from the South Field and Inactive Flyash Pile and infiltrate to the GMA.	Ongoing

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***Removal Actions***

**RA No. 1, Contaminated Water Under FEMP Buildings**

**Current Month:**

All RA No. 1 pumping and sampling was discontinued except for dewatering of the clarifier pit and floor sumps located in Plant 6.

**Planned Activities:**

- Continue dewatering of the clarifier pit and floor sumps located in Plant 6.

**RA No. 3, South Groundwater Contamination Plume**

**Part 1 - Alternate Water Supply**

**Current Month:**

The U.S. Army Corps of Engineers, through an Interagency Agreement, is proceeding with obtaining the necessary documents to transfer easement rights to Albright and Wilson Americas.

The analysis of cultural resources and final report for data recovery field work for Project B of the Public Water Supply (PWS) is in progress. Field work has been completed. The final report, written by Gray and Pape, includes analysis of the findings. This report, in draft format, will be submitted by Gray and Pape to DOE-FN and the State Historical Preservation Office for review in early February.

All transmission main construction, excluding service connections to the right-of-way, has been completed. Cincinnati Water Works (CWW) continues acceptance testing and chlorination.

Hamilton County Department of Public Works (HCDPW) awarded four contracts for service connections for the PWS. Construction of individual service connections should begin in either February or March 1996.

**Planned Activities:**

- Continue proceedings to transfer ownership of the pumping and piping equipment as well as the easement rights to Albright and Wilson in accordance with the agreement of 1990.
- Continue to support HCDPW on installation of the entire PWS including service connections.
- Complete tie-in of PWS with the FEMP on Willey Road. This includes chlorination of the FEMP water line by CWW.
- Continue providing assistance with technical evaluation of HCDPW's submittal of costs applied to DOE grant as of October 31, 1995.

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*Removal Actions*

RA No. 3, South Groundwater Contamination Plume (continued)

Part 2 - Pumping and Discharge System

**Current Month:**

Statistical analyses of the data have been completed. The generation of tables and figures was completed in January 1996 in preparation for the July 1, 1995 - December 31, 1995 status report due in April 1996. The text for the document is in progress, and a draft report will be completed for internal review by February 14, 1996.

**Planned Activities:**

- A draft report will be prepared for internal review by February 14, 1996.

Part 3 - Interim Advanced Waste Water Treatment (IAWWT)

IAWWT Storm Water Retention Basin (SWRB) Unit

**Current Month:**

The unit continues to operate smoothly.

**Planned Activities:**

- Continue to operate.

IAWWT Bionitrification Effluent Treatment System (BDN-ETS) Unit

**Current Month:**

System will be operational until current inventory of high NO<sub>3</sub> water has been processed. Treatment of the current inventory is expected to be complete in late March 1996.

**Planned Activities:**

- None to report.

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**RA No. 3, South Groundwater Contamination Plume (continued)**

**Part 4 - Groundwater Monitoring and Institutional Controls**

**Current Month:**

Partial plugging of one of the residence's ion exchange (IX) units was reported by the homeowner as evidenced by low flow rate of water. To alleviate this problem, a new IX unit was delivered to the residence for replacement. The partially plugged IX vessel will be packed and returned to the FEMP after installation of the new vessel is complete.

**Planned Activities:**

- Continue to monitor performance of the ion exchange units installed at private residences.

**Operable Unit 2 Dispute Resolution Supplemental Project (Uranium Reduction in FEMP Discharge)**

**Step 1**

Install 200 gallons per minute (gpm) system dedicated to the treatment of a portion of the extracted South Plume groundwater—commonly known as South Plume Interim Treatment (SPIT) System.

**Current Month:**

Operations continued.

**Planned Activities:**

- Continue to operate.

**Step 2**

Utilization of off-peak Advanced Waste Water Treatment (AWWT) capacity.

**Current Month:**

An optimum flow of 660 gpm has been achieved at the AWWT using the current configuration. Operational goals have been established whereby the 400 gpm system uses available capacity to routinely process South Plume water daily and the 700 gpm system along with the IAWWT will change over to exclusively process South Plume water during those times when the SWRB is at a low level.

**Planned Activities:**

- Continue operational goals as described.

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***Removal Actions***

**RA No. 3, South Groundwater Contamination Plume**

**Operable Unit 2 Dispute Resolution Supplemental Project (Uranium Reduction in FEMP Discharge)  
(continued)**

**Step 3**

Elimination of low uranium concentration streams.

**Current Month:**

Continue to operate at optimum flows using current configuration.

**Planned Activities:**

- Continue to operate.

**Step 4**

Extend operating life/increase capacity of the IAWWT (SWRB).

**Current Month:**

Operations continue.

**Planned Activities:**

- Treat storm water and South Plume water as required.

**RA No. 7, Plant 1 Pad Continuing Release**

**Current Month:**

The concrete refill continues to be approximately 30% complete. Due to cold weather, this work will not be resumed/completed until Spring 1996.

**Planned Activities:**

- None to report.

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*Removal Actions*

**RA No. 9, Removal of Waste Inventories**

**Current Month:**

The volume, in cubic feet (cf), of low-level waste staged for shipment to Nevada Test Site (NTS) through January 1996 is 89,219 (external) and 77,053 (internal). As of January 29, 1996 the FEMP has shipped 17,025 cf (external) and 14,610 cf (internal) to NTS for Fiscal Year (FY) 1996.

Low level waste volume reduction includes approximately 4,454 containers of legacy waste materials (generated prior to October 1, 1994) identified in "FY 1996 Inventory Reduction Plan for Legacy Wastes at the FEMP."

Shipment of uranium derbies to Manufacturing Sciences Corporation (MSC) in Oak Ridge, Tennessee was re-commenced on January 30, 1996 per approval from MSC.

The volume of low level waste materials shipped to NTS in FY 1996 per waste stream is as follows:

WASTE STREAM	INTERNAL Vol. (cf)	EXTERNAL Vol. (cf)
Process Area Scrap	8,094	7,038
Thorium	0	0
Residues to NTS	4,885	4,049
Contaminated Trash	0	0
Construction (Legacy)	0	0
Construction (Newly Generated)	4,047	3,519

Note : 1 drum equivalent = 7.4 cubic feet

**Liquid Mixed Waste Project:**

On January 12, 1996 OEPA conditionally approved the Waste Water Treatment (WWT) work plan. This work plan was submitted as part of the Liquid Mixed Waste Project CERCLA work plan. This conditional approval allows for the treatment of certain characteristic mixed wastes through the WWT plant on site.

January 15, 1996 the first six (6) containers of Characteristic Mixed Waste were processed through the WWT system on site.

Twenty-five (25) containers of Characteristic Mixed waste were processed through the WWT system during the month of January 1996.

January 4, 1996 the FEMP loaded and released two (2) shipments of aqueous waste to be received and disposed of at the Toxic Substance Control Act (TSCA) incinerator. The two (2) shipments represent approximately 8000 gallons of Mixed Waste removed from inventory.

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*Removal Actions*

**RA No. 9, Removal of Waste Inventories**

**Current Month: (continued)**

**Chemical Treatment Project:**

Contracts for lead recycling, waste segregation, and lead and debris macroencapsulation are in place. A letter stating completion of the milestones as specified in the October 4, 1995 Directors Final Findings and Orders is scheduled to be sent to the OEPA in February 1996.

A lead recycling contract was put in place on December 1, 1995 triggering a milestone to submit a Technology Specific Work Plan for Decontamination by March 29, 1996. The Decontamination Work Plan will also cover shipment of lead and debris for macroencapsulation through an INEL Cooperative Agreement with Envirocare of Utah. The FEMP was provided a 40,000 pounds capacity on December 22, 1995 for shipping mixed lead and debris. Preparation of the Decontamination Work Plan is ahead of schedule.

Waste Segregation will be one of the first treatment processes performed in the Chemical Treatment Project using FEMP personnel. The contract date is based on a letter from FERMCO Industrial Relations dated January 12, 1996 requiring the FEMP to perform the operation with its own labor. This triggered a milestone to submit a Technology Specific Work Plan to the US and Ohio EPA in May 1996. Preparation of the Waste Segregation Work Plan is ahead of schedule.

**Mixed Waste Stabilization Project:**

Completed Grit Blast Residue treatment	904 drums
Completed Solidified Furnace Salts treatment	144 drums

As of January 31, 1996; the project has treated 1048 drums and filled approximately 200 half high white metal boxes (white metal boxes half the height of standard boxes, specially procured for the project) with stabilized waste.

**Planned Activities:**

- Continue shipment of uranium duffles to Oak Ridge, Tennessee upon approval from MSC.
- Continue packaging operations to develop a surplus of LLW materials to be shipped to NTS.
- Continue radiological characterization efforts for wastes to be shipped to NTS, and develop/implement a radiological characterization program.
- Process 75 containers through the WWT system in February 1996.
- Blend and sample waste streams in February for shipment in March 1996.

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***Removal Actions***

**RA No. 12, Safe Shutdown**

**Current Month:**

Safe Shutdown field activities in Plant 9 have been completed. The facility has been turned over to Construction for Phase II D&D.

Completed holdup removal from the Pilot Plant Shot Blaster and two portable dust collectors in Building 13A. Continued holdup removal from the Building 54 sumps. Continued removal, and packaging of biologic waste (bird carcasses). Commenced holdup removal from the Ammonia Dissociators. Several utility disconnections were accomplished.

Fifty percent of the Plant 5 Implementation Plans have received final FERMCO internal review and approval and been turned over to field activities for scheduling and execution. Continued utility disconnections, the removal and redistribution of salvageable equipment and general housekeeping in preparation for holdup removal activities. Continued the removal of oil from the Hilco Oil Reclaimer. Work continues on the design for redistribution of electrical power that runs through the Plant 5 complex.

**Planned Activities:**

- Continue utility disconnections and holdup material removal in the Pilot Plant.
- Continue utility disconnections and review of holdup material removal plan for Plant 5. Commence holdup material removal.
- Continue advanced planning to support Safe Shutdown of Plant 2/3.

**RA No. 13, Plant 1 Ore Silos**

**Current Month:**

No further activities are planned for RA No. 13.

**Planned Activities:**

- None to report.

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**RA No. 15, Scrap Metal Piles**

**Current Month:**

Review of the RA No. 15 Final Report by DOE-FN continues.

Phase I: None to report.

Phase II: The Engineering Study contract was awarded to Manufacturing Sciences Corporation, Oak Ridge, Tennessee, on September 20, 1995. The Phase II study is scheduled for completion July 1996.

**Planned Activities:**

- Phase I: Final disposition of the waste streams continues to be determined.
- Phase II: The Engineering Study of the Phase II waste streams will be managed by Waste Programs Management.

KEY MILESTONES	STATUS	DUE DATE
Phase I - On-Site Processing Off-Site Processing	Completed Completed	Sept. 30, 1993 March 25, 1994
Phase I - Submit draft Final Report to U.S. EPA	Completed	October 4, 1994
Phase IIB: Submittal of Subcontractor's Removal Action Project Plan	Cannot proceed until treatability/engineering study is completed.	Sept. 30, 1993
Phase IIB: Submittal of Final Report	Cannot proceed until treatability/engineering study is completed.	March 30, 1995

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*Removal Actions*

**RA No. 17, Improved Storage of Soil and Debris**

**Current Month:**

January activities included submittal of the resolutions to comments made by U.S. and Ohio EPAs (from their review of the draft RA 17 Work Plan (Revision 3) and the Final RA 17 Work Plan (Revision 3) on January 5, 1996.

A draft revised version of the site procedure EW-0006, was submitted for internal FERMCO review on January 19, 1996. The procedure is being updated to incorporate the new management strategies introduced and approved within the Revision No. 3 of RA 17 (Improved Storage of Soil and Debris) Work Plan.

**Planned Activities:**

- Obtain approval of the Final RA 17 Work Plan (Revision 3) and complete the revision of the site procedure EW-0006 and implement into field activities at the FEMP.

**RA No. 19, Plant 7 Dismantling**

**Current Month:**

Received final revision on the ALARON draft Final Report for processing of the Plant 7 steel the week of January 29, 1996. Twenty seven roll-off boxes were returned to Plant 4. Ten boxes were filled with ALARON material and stored at the Plant 7 Pad. Consolidation of containers of primary waste at Plant 7 was put on hold due to the installation of the new grappler attachment.

Sampling and analysis of waste streams that were returned to the FEMP were completed December 12, 1995.

**Planned Activities:**

- Complete consolidation of containers of primary waste at the Plant 7 Pad in February.
- Prepare draft report of FERMCO-related activities for Plant 7 structural steel and lead recycling for completion of project reports.

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**RA No. 20, Stabilization of UNH Inventories**

**Current Month:**

During the month of January, analytical results from the rinse of Tank F1-25 were received and show the tank to be RCRA-clean. Tank D1-11 aqueous component was transferred to Tank F1-26 containing approximately 10,000 gallons of 2N nitric acid. Water, emulsion, and sludge layer was moved from Tank D1-7 to Tank D1-11 (approx. 1200 gallons).

**Present status of tanks:**

- Tank D1-7 contains approximately 455 gallons
- Tank D1-11 contains approximately 1200 gallons
- Tank F1-26 contains approximately 12,000 gallons of 2N nitric acid and uranium from Tanks D1-7, D1-11 processing

Samples for total uranium were taken from Tanks D1-7, D1-11 and F1-26 on January 29, 1996.

**Planned Activities:**

- Complete processing of Tank D1-7.
- Process the last batch of nitric acid in Tank F1-26.
- Rinse dilution/neutralization Tank F1-26.
- Rinse Tanks D1-7 and D1-11.

**RA No. 26, Asbestos Removals (Asbestos Program)**

**Current Month:**

The asbestos floor tile removal in the cafeteria was completed on January 20, 1996. Removal of friable asbestos from the furnaces located in Plant 4 began the week of January 29, 1996.

**Planned Activities:**

- Complete non-friable asbestos (interior transite) removal in Plant 4 by February 1996.
- Begin friable asbestos (interior piping) removal in Plant 1 by early February 1996.
- Continue removal of friable asbestos from the furnaces located in Plant 4.

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**RA No. 28, Contamination at the Fire Training Facility**

**Current Month:**

No further activities are planned for RA No. 28.

**Planned Activities:**

- None to report.

**RA No. 30, Seepage Control and Removal of Sediment at the South Field and Inactive Flyash Pile**

**Current Month:**

No further activities are planned for RA No. 30.

**Planned Activities:**

- RSO will continue to monitor and sample in accordance with the Operation and Maintenance Manual until remediation of the South Field.

<b>KEY MILESTONES</b>	<b>STATUS</b>	<b>DUE DATE</b>
Submit RSE	Completed	October 11, 1994
Submit work plan to DOE	Completed	December 22, 1994
Submit work plan to EPAs	Completed	January 20, 1995
Complete Removal Action	Began Construction April 25, 1995	August 16, 1995
Submit Final Report to EPA	Completed Sent to EPA on November 30, 1995	December 8, 1995

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*Remedial Investigations/Feasibility Studies*

**1.0 Operable Unit 1**

Operable Unit 1, as defined in the Amended Consent Agreement, includes Waste Pits 1 - 6, Clearwell, Bum Pit, berms, liners, and soil within the operable unit boundary.

**1.1 RI/FS Work Plan**

**Status:**

Complete.

**1.2 Remedial Investigation**

**Status:**

Complete.

**1.3 Feasibility Study/Proposed Plan**

**Status:**

Complete.

**1.4 Treatability Studies**

**Status:**

Dewatering Excavation Evaluation Program (DEEP) Phase IV, Dry Excavations, began October 17, 1995 with the construction of the ramp and 30-foot diameter pad in Waste Pit 1. The material excavated was found to be dry (<17% moisture), containing little debris, and strong enough to support excavation equipment. The Waste Pit 3 ramp and pad excavation was initiated October 25, 1995. The waste was found to be wet and of such a low strength, excavation equipment could not be supported on it. The excavation was completed on November 1, 1995. Decontamination and Decommission of equipment for the project has been completed. Laboratory analysis of DEEP samples has been completed and is being incorporated into the final report. The DEEP final report will be issued in the Pre-final Design Package.

**Issues/Corrective Actions:**

None to report.

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**1.5 Record of Decision**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**1.6 RD Work Plan**

The Remedial Design (RD) Work Plan identifies the design deliverables, and presents the schedule for their submittal to U.S. EPA (in coordination with OEPA) for the implementation of the selected remedy described in the Operable Unit 1 (OU) Record of Decision.

**Status:**

A Final RD Work Plan was submitted to the U.S. and Ohio EPAs on July 7, 1995.

In a letter to the U.S. and Ohio EPAs dated August 18, 1995, providing a proposal for integration of site-wide remedial planning, DOE requested that the OU 1 Site Restoration Plan be deleted as an OU 1 remedial design deliverable. The letter also stated that the scope of this deliverable would be addressed in a site-wide plan as discussed in the proposal enclosed therein. In letters of September 8, and September 15, 1995, OEPA and U.S. EPA, respectively, expressed support of this proposal for site-wide integration, although both agencies stated that additional detail is needed and should be reflected in the respective RD/RA planning documents. In a letter dated October 12, 1995, DOE responded by stating that change pages would be issued for the OU 1 RD Work Plan upon approval of the OU 5 RD Work Plan, explicitly clarifying the scope of activity required by the OU 1 ROD that will be provided for in the OU 5 Remedial Design process. Change pages will also be issued at that time to describe the integrated Decontamination and Decommission concept with OU 3, providing a schedule for submittal of associated Implementation Plans.

**Issues/Corrective Actions:**

None to report.

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**1.7 Remedial Design**

Remedial design is the process wherein the broad concepts presented in the Record of Decision (ROD), relative to the selected remedy (e.g., drying, excavation, etc.), are developed into the technical requirements and direction needed to ensure that the remedial action is implemented in a manner that meets the requirements of the ROD. Remedial design consists of technical analyses and procedures which result in the development of various design documents. The RD Work Plan identifies the following deliverables: Plant Facilities Design Criteria Package, Plant Facilities Engineering, Equipment Specifications, Site Improvement Plan, Construction Schedule, Excavation Plan, Site Restoration Plan, and Transportation and Disposal Plan. The RD Work Plan also provides for submittal dates of October 24, 1995, for the preliminary design deliverables, and March 21, 1996, for the pre-final design deliverables.

OU 1 is in the process of evaluating a concept, referred to as the Alternative Remedial Action Sub-contracting Approach (ARASA), as a means of reducing costs for the remediation of the waste pits. Under the ARASA concept, the sub-contractor would furnish certain necessary project capital, rather than the government furnishing the capital, resulting in the government avoiding significant up-front expenses. An analysis of this approach will first be performed in terms of advantages and challenges, and a decision document will be issued summarizing this analysis and identifying a path forward. A decision on the path forward is planned by March 1, 1996.

**Status:**

The preliminary design package was submitted to U.S. EPA and Ohio EPA for review on October 23, 1995. In a letter dated December 14, 1995, U.S. EPA provided comments on the preliminary design package. In the letter, U.S. EPA stated that this package adequately addresses the record of decision requirements and conforms to generally accepted engineering practices, but disapproved the package pending resolution of comments. In a letter dated December 22, 1995, Ohio EPA provided comments on the preliminary design package. A Response to Comments document was submitted to U.S. EPA and Ohio EPA on January 19, 1996, formally responding to these Agency comments on the preliminary design package.

As indicated in the RD Work Plan, a key aspect of the strategy and schedule for the OU 1 remedial design is the provision for continuing the completion of design while the design documents are being reviewed by the EPAs. In this regard, efforts continued through January 1996 to provide further detail to the design, and otherwise keep the process moving, including various design meetings.

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**1.7 Remedial Design**

**Status: (continued)**

OU 1 initiated substantive efforts in January 1996 to gather and assess information for use in the development of a decision document on ARASA. The efforts included briefings with various parties who would be potentially impacted by the implementation of this approach; such as, U.S. EPA, Ohio EPA, FRESH, and the Fernald Citizens task Force. The results of these briefings will be integrated into the development of the decision document.

**Issues/Corrective Actions:**

None to report.

**1.8 RA Work Plan**

The Remedial Action (RA) Work Plan provides the basis for implementation of the Remedial Design Work Plan and includes, but is not limited to, the following: Sampling and Analysis Plan, Quality Assurance Project Plan, Health & Safety/Contingency Plan, Operations and Maintenance Plan, and a plan for meeting permitting requirements.

**Status:**

The Remedial Action Work Plan is scheduled for submittal to the U.S. and Ohio EPAs by October 22, 1996, as stated in the Remedial Design Deliverable Schedule submitted as part of the RD Work Plan.

**Issues/Corrective Actions:**

None to report.

**1.9 Planned Activities for February 1996:**

- Continue to finalize the DEEP final report.
- Continue development of Pre-final Design Packages.
- Continue assessment of ARASA and development of decision document.

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**2.0 Operable Unit 2**

Operable Unit 2 (OU 2), as defined in the Amended Consent Agreement, includes the Flyash Piles, other South Field disposal areas, Lime Sludge Ponds, Solid Waste Landfill, berms, liners, and soil within the operable unit boundary.

**2.1 RI/FS Work Plan Addendum**

**Status:**

Complete.

**2.1.1 RI Field Investigation**

**Status:**

Complete.

**2.2 Remedial Investigation**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**OPERABLE UNIT 2 REMEDIAL INVESTIGATION REPORT**

**PRIMARY MILESTONES**

SCOPE	SUBMIT TO EPA <sub>s</sub>	RECEIVE FROM EPA <sub>s</sub>	FINAL DUE DATE TO EPA <sub>s</sub>	ACTUAL DATE SUBMITTED
Details the nature and extent of contaminants within the OU 2 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	2/18/94 C	4/22/94	1/21/95	1/20/95

C = Consent Agreement Date

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**2.3 Feasibility Study/Proposed Plan**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

OPERABLE UNIT 2 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT DRAFT TO EPA <sub>s</sub>	RECEIVE FROM EPA <sub>s</sub>	SUBMIT FINAL DRAFT TO EPA <sub>s</sub>	ACTUAL FINAL SUBMITTAL TO EPA <sub>s</sub>
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	4/29/94 C	7/5/94 C	8/24/94 C	3/1/95

C = Consent Agreement Date

**2.4 Treatability Studies**

**Status:**

None to report.

**Issues/Corrective Actions:**

None to report.

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**2.5 RD/RA Work Plan**

**Status:**

The Operable Unit 2 Draft Remedial Design Work Plan report was submitted to the U.S. EPA for review and approval and the OEPA for review on August 4, 1995. The document was transmitted three days ahead of schedule. The U.S. Environmental Protection Agency conditionally approved the document on September 18, 1995 and gave final approval on November 16, 1995 in accordance with the Award Fee Milestone. The OEPA submitted their conditional approval September 29, 1995 and gave final approval on November 3, 1995.

**Issues/Corrective Actions:**

None to report.

**2.6 Record of Decision**

**Status:**

The Record of Decision (ROD) was signed by DOE and submitted to the EPAs on May 12, 1995. Formal approval was received June 8, 1995 and the Final Operable Unit 2 ROD was submitted to the EPAs and general distribution was completed.

**2.7 Pre-Design Field Investigation**

**Status:**

Submittal of the Draft Addendum to the Project Specific Plan for Phase I and Phase II of the Operable Unit 2 Predesign was sent to DOE on December 14, 1995 and transmitted to the U.S. EPA and Ohio EPA on December 15, 1995. The Addendum is currently being reviewed by DOE and the U.S. Environmental Protection Agency. Ohio EPA completed its review and transmitted comments to FERMCO on January 24, 1996. FERMCO is currently addressing the OEPA review comments. Field work began on January 26, 1996.

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**2.8 Geotechnical Field Investigation**

**Status:**

The Geotechnical Investigation Report for the On-Site Disposal Facility was submitted to U.S. EPA and the OEPA on January 16, 1996. The report included the results of Geotechnical testing on samples gathered in accordance with the Geotechnical Sampling and Testing Plan for Phase III of the Site-Wide Disposal Facility Field Investigation.

**Planned Activities for February 1996:**

- Geotechnical sampling in support of the OSDF Test Pad will be performed in February 1996. These tests are needed to establish acceptable permeability zones for the upper and lower horizontal till materials and to select the range of target compaction conditions that will be evaluated during the test pad program.

**2.9 Disposal Facility**

**Status:**

On-Site Disposal Facility (OSDF) Design - The preliminary design package was submitted to U.S. EPA and Ohio EPA two days ahead of schedule on December 20, 1995. The preliminary design package included: Design Criteria Package, Design Calculations, Design Drawings, and Technical Specifications.

A Draft Test Work Plan for the On-Site Disposal Facility was submitted to the EPAs on January 12, 1996. The document described the field work which meets the substantive requirements of Ohio Solid Waste Disposal Regulations (Ohio Administrative Code (OAC) 3745-27-08(C)(1)(m)). This Applicable or Relevant and Appropriate Requirement (ARAR) of the On-Site Disposal Facility requires the recompacted soil liner and the recompacted soil barrier layer in the cap system to be modeled by construction of test pads. The Test Pad Work Plan describes requirements for the construction and testing of test pads.

**Planned Activities for February 1996:**

- Continue preparation of the Intermediate (60%) Design Package to be submitted to DOE.

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**3.0 Operable Unit 3**

Operable Unit 3, as defined in the Amended Consent Agreement, includes the Production Area and production-associated facilities and equipment (including all above-and below-grade improvements) including all structures, equipment, utilities, drums, tanks, solid waste, waste, product, thorium, effluent lines, K-65 transfer lines, waste water treatment facilities, fire training facilities, scrap metal piles, feed stocks, and coal pile.

**3.1 Remedial Investigation/Feasibility Study Report**

**Status:**

The OU 3 RI/FS Comment Response Document was approved by U.S. EPA with comments on January 23, 1996. Comments on the combined Draft RI/FS Report and the Proposed Plan were received from the U.S. EPA and Ohio EPA on January 23 and January 19, respectively. In total 13 comments were received. A meeting was held with both regulatory agencies on January 24, 1996 to begin the comment resolution process.

**Issues/Corrective Actions:**

Ohio EPA has expressed concern over the OU 3 mass based approach for technetium-99. In the meeting on January 24, the Ohio EPA concern was focused on evaluating the conservative sampling methodology and available radiological survey data within components. On January 31, an Ohio EPA representative met with Facilities D&D Project personnel to discuss data issues. In this meeting, resolution of the Ohio EPA concern with potential OU 3 data limitations and the OU 3 Waste Acceptance Criteria were resolved with the agreement for additional scabbling of concrete in the Pilot Plant Wet Side (13A), process area 1.

**OPERABLE UNIT 3 REMEDIAL INVESTIGATION/FEASIBILITY STUDY PRIMARY MILESTONES**

SCOPE	SUBMIT TO EPA <sub>s</sub>	RECEIVE FROM EPA <sub>s</sub>	SUBMIT TO EPA <sub>s</sub> FINAL
Details the nature and extent of contaminants within the OU 3 study area. Estimates the volume of contaminated media and materials. Characterizes contamination in the former production area. Develops remedial action objectives and describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	09/11/95 C	12/05/95 C	01/24/96 C

C = Consent Agreement Date  
F = Forecast Date

**3.2 Record of Decision**

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The preliminary draft ROD was submitted to DOE (Fernald, OFO, and HQ) on January 5, 1996 for review. Comments are expected back on February 16, 1996. Submittal of the draft ROD to the EPAs will occur 60 days after the close of the public comment period.

**Issues/Corrective Actions:**

None to report.

**OPERABLE UNIT 3 RECORD OF DECISION**

**PRIMARY MILESTONES**

SCOPE	SUBMIT TO EPAs	RECEIVE FROM EPAs	SUBMIT TO EPAs FINAL
Finalizes the decision between the DOE and the U.S. EPA on the remediation approach for Operable Unit 3. The document contains multiple sections including the Declaration, the Decision Summary, and the Responsiveness Summary.	07/25/96 C	08/23/96 F	09/25/96 F

C = Consent Agreement Date  
F = Forecast Date

**3.3 Engineering Studies**

**Status:**

The Transite Characterization Engineering Study final report was issued in January 1996.

A decision was made to complete Phase I and discontinue phases planned for the future on the Ultrasonic Decontamination of Strategic Metals project. A summary report on work finished to date is being prepared and will be sent out for review in February 1996.

Contaminated pipe insulation (asbestos) collected by Safe Shutdown from two areas in Plant 9 was received by Westinghouse Science and Technology Center (WSTC) in Pittsburgh, PA. WSTC and KAI Tech. Inc. are continuing efforts to develop a process that uses ion exchange to remove radiological and metal contamination from asbestos. The project is being funded by DOE Morgantown Energy Technology Center (DOE-METC) on a Program Research and Development Announcement (PRDA).

**Issues/Corrective Actions:**

None to report.

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**3.4 Interim Remedial Action**

**Status:**

**Dismantlement of MAWS Equipment** - The anticipated date for starting field activities for the removal of the MAWS soil washing system is February 20, 1996. This equipment will be decontaminated before being dismantled and free released to one of Lockheed's facilities. Since utilities have been disconnected and Safe Shutdown has been completed in Plant 9, temporary lighting and heating, powered by a portable generator, are currently being set up. FERMCO is awaiting a notice to proceed from DOE for the removal of the MAWS vitrifier and water treatment system.

**Issues/Corrective Actions:**

None to report.

**3.5 Planned Activities for February 1996:**

- Review and incorporate technical comments into a summary report for the Ultrasonic Cleaning of Strategic Metals Engineering Study. Send the draft report out for review.
- Revise and submit the Final OU 3 RI/FS/PP to U.S. EPA and Ohio EPA on February 16, 1996 addressing all comments received.
- Develop the Notice of Availability (NOA) to announce the public comment period to the public.
- Schedule and begin planning for the OU 3 public comment period. This includes determining the appropriate date and location for the public hearing. Planning includes preliminary preparation of presentation slides and dry runs for the meeting.
- Receive DOE comments on the draft ROD and revise the ROD accordingly.

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**4.0 Operable Unit 4**

Operable Unit 4, as defined in the Amended Consent Agreement, consists of Silos 1, 2, 3, and 4, the silo berms, the Decant Sump Tank System, and soil within the operable unit boundary.

**4.1 RI/FS Work Plan**

**Status:**

Complete.

**4.2 Remedial Investigation**

**Status:**

Complete.

**4.3 Feasibility Study/Proposed Plan**

**Status:**

Complete.

**4.4 Treatability Studies**

**4.4.1 Bench Scale Treatability Studies**

**Status:**

Complete.

**4.4.2 Pilot Plant Treatability Studies**

**Status:**

Response to DOE-FN comments on the Phase I Work Plan were submitted on January 18, 1996. Additional comments were generated for the Phase I Work Plan and are currently being addressed for submittal on February 7, 1996. Comments on the Phase II Work Plan are being addressed for submittal to DOE-FN on February 29, 1996.

**Issues/Corrective Actions:**

None to report.

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**4.5 Record of Decision**

**Status:**

Complete.

**4.6 RD Work Plan**

**Status:**

Complete.

**4.7 Planned Activities for February 1996:**

- Complete construction of the Phase I Pilot Plant facility.
- Address comments on the Phase I Work Plan.
- Address comments on the Phase II Work Plan.
- Continue System Operability Testing and Pre-Start activities.

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**5.0 Operable Unit 5**

Operable Unit 5, as defined in the Amended Consent Agreement, includes: groundwater, surface water, and soil not included in the definitions of Operable Units 1 through 4, sediment, flora and fauna.

**5.1 Remedial Investigation**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

**OPERABLE UNIT 5 REMEDIAL INVESTIGATION REPORT**

**PRIMARY MILESTONES**

SCOPE	SUBMIT TO EPA <sub>s</sub>	RECEIVE FROM EPA <sub>s</sub>	SUBMIT TO EPA <sub>s</sub> FINAL
Details the nature and extent of contaminants within the OU 5 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	06/24/94 C	09/12/94 C	11/01/94 C 11/01/94 A

C = Consent Agreement Date  
A = Actual Date

**5.2 Feasibility Study/Proposed Plan (FS/PP)**

**Status:**

Complete.

**Issues/Corrective Actions:**

None to report.

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OPERABLE UNIT 5 FEASIBILITY STUDY/PROPOSED PLAN

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPAs	RECEIVE FROM EPAs	SUBMIT TO EPAs FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	11/15/94 C 11/15/94 A	01/16/95 C	02/14/95 C

C = Consent Agreement Date  
A = Actual Date

**5.3 RCRA Monitoring**

**Status:**

The annual report is being prepared and is due to the EPAs on March 1, 1996. The report began internal review January 22, 1996.

**Issues/Corrective Actions:**

None to report.

**5.4 Treatability Studies**

Complete.

**5.5 Record of Decision (ROD)**

**Status:**

The document has been forwarded to the EPA for the Regional Administrator's signature. When the signed Declaration Statement is issued, distribution of the Operable Unit 5 ROD will take place.

**Issues/Corrective Actions:**

None to report.

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**5.6 Other Studies/Reports**

**Status:**

Comments were received from the OEPA on the South Field Injection Test Report. Preparations are being made for an additional test in February 1996.

**Issues/Corrective Actions:**

None to report.

**5.7 RD/RA Activities**

**Status:**

A draft RD Work Plan is in preparation. After the ROD is signed, the Work Plan will undergo preliminary internal review.

**Issues/Corrective Actions:**

None to report.

**5.8 Planned Activities for February 1996:**

- Print and distribute the Operable Unit 5 ROD following joint signature by EPA and DOE.
- Continue preparation of the draft Remedial Design Work Plan.
- Continue work on the draft Integrated Environmental Monitoring Plan.
- Continue work on the draft Groundwater Section of the 1995 RCRA Annual Report.
- Respond to comments received on the South Field Injection Test Report.

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6.0 Community Relations

**Status:**

The cover story of the January issue of *RadWaste Magazine*, "DOE Pursuing Accelerated Cleanup at Fernald," included several photos of Fernald Atomic Trades and Labor personnel performing cleanup work related to uranyl nitrate hexahydrate (UNH) transfer and neutralization project and Plant 4 safe shutdown.

The article "Fernald Completes Treatment of Thorium Nitrate," written by FERMCO was published in the January 1996 issue of *DOE This Month*.

FERMCO reviewed an introductory summary on Fernald for an article on FERMCO's training in *Clemson World*.

*ES&H Synergy* invited FERMCO to submit articles and/or any ideas and suggestions for the publication.

At DOE's request, FERMCO produced and supplied information to *Cincinnati Enquirer*, concerning Fernald's safety statistics in comparison with industry standards, other DOE sites, and former contractors. FERMCO also supplied all occurrence reports from January 1993 to present.

FERMCO issued a press release announcing the Greater Cincinnati Regional Science Bowl held February 3, 1996 and the schools that sponsored academic team participants.

A response to query was developed on the January 22, 1996 arbitration ruling regarding a FAT&LC grievance which alleged FERMCO wrongfully assigned work to other subcontractors.

FERMCO wrote two sections for the draft Operable Unit 1 privatization decision document. The sections outlined Fernald's public involvement program and identified a path forward for involving stakeholders in the Operable Unit 1 privatization issue. In addition, FERMCO prepared a fact sheet on the Operable Unit 1 privatization issue for interested internal and external stakeholders. The fact sheet addresses key questions regarding the privatization process. FERMCO and DOE senior managers met with key stakeholders to discuss Operable Unit 1 privatization.

FERMCO reviewed and updated Fernald's notification procedure. Public Affairs sent 13 notification reports to several stakeholders groups, including: Hamilton and Butler County Emergency Management Agencies, Fernald Citizens Task Force, FRESH, Industrial Relations, and the FAT&LC Union Office.

January 24, 1996 a FERMCO Public Affairs staffer met Laura Hafer, Ohio Environmental Protection Agency, to assist in obtaining Fernald-related information and graphic images for Ohio EPA's Internet home page, which includes a section on Fernald, as well as other sites under OEPA's jurisdiction.

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**6.0 Community Relations**

**Status: (continued)**

FRESH and the Fernald Citizens Task Force were provided updated information about materials added to the Public Environmental Information Center (PEIC), which includes the Administrative Record File, the Remedial Design/Remedial Action File, and the public reading room.

FERMCO is providing support to the Fernald Citizens Task Force as it begins to refocus on the remedial design phase of Fernald cleanup. The task force subcommittee on Natural Resources Trustees met to gain further information of the subject. Task force members also attended the public meeting about the January 24, 1996 meeting about the on-site disposal facility as a prelude to discussions to be held at their February 10, 1996 meeting.

More than 90 stakeholders attended the on-site disposal facility preliminary design public workshop, held January 24, 1996 at the Plantation, Harrison. The DOE Fernald Area Office Operable Unit 2 team leader gave a brief status of the on-site disposal facility design, explained the preliminary design package, and reviewed the design criteria package. FERMCO's Soils Remediation Project director spoke about the three models on display and reviewed various engineering drawings with the attendees. A GeoSyntec representative was also available to answer questions.

Public Affairs arranged for local stakeholders to meet with DOE Morgantown Energy Technology Center (METC) personnel to discuss candidate technologies for the Plant 1 Complex Decontamination and Dismantlement Project. On January 25, 1996 three FRESH members met with METC and Fernald site personnel.

FERMCO supported DOE at the FRESH meeting held January 25, 1996. The FERMCO Public Affairs director obtained feedback from the group regarding the economic impact assessment, produced by the University of Cincinnati. FERMCO relayed the stakeholders' feedback to the University of Cincinnati, which is revising the document prior to publication.

FERMCO coordinated 11 tours, with a total of 70 guests. Among them were representatives from U.S. EPA, Ohio EPA, DOE Headquarters, Weldon Springs site, Morgantown Energy Technology Center, Fluor Daniel and General Atomics; physicians and health care workers involved with the Fernald Workers' Settlement; and a *Cincinnati Enquirer* reporter.

Fernald Envoys attended 12 meetings of community organizations, with over 600 people attending all of the meetings. Envoys' meetings included: Crosby, Ross and Morgan townships; Fernald Retirees Association (A new envoy was appointed to this group.); Ross Merchants Association; Cooperative Planning and Training Committee (represents 20 community organizations); FRESH; Hamilton Chamber of Commerce; Hamilton County Board of Health; and Cincinnati Chamber of Commerce committee.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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***Remedial Investigations/Feasibility Studies***

**6.0 Community Relations**

**Status: (continued)**

FERMCO is coordinating formation of the Community Reuse Organization (CRO), which will serve as the community's voice to DOE on all Fernald-related economic development activities. Activities during the month included writing a scope of work for a subcontractor to serve as the convener for the CRO. The convener will screen the membership and write a charter and operating procedures for the CRO. The convener will also preside at an economic development forum to explain the CRO concept and brief the community on the economic impact assessment recently completed by the University of Cincinnati. Research was also conducted to investigate how CROs at other sites are organized.

FERMCO contributed \$100 to the Hamilton Chapter of American Red Cross and \$400 to Harrison Middle School for classroom equipment to facilitate teaching of computer skills.

The December 12, 1996 community meeting information packets were sent to 31 external stakeholders and 21 employees.

The December issue of the *Fernald Report* was mailed to more than 1,200 stakeholders.

The biweekly issue of the *Grumbly Report* was submitted to the DOE Fernald Area Office.

The "Fernald Road Show" display was updated to focus on key Fernald accomplishments and the 10-year accelerated cleanup plan.

Fernald volunteers visited all four Partnership in Education schools. Chemistry in a resealable plastic bag was the subject at Crosby and Miamitown schools. The students had a chance to witness and understand the science behind how salt melts snow on the highways and sidewalks. At Ross Middle School and Garfield Junior High School, the students participated in site media sampling.

The Fifth Annual Greater Cincinnati Science Bowl, sponsored by Fernald, was held February 3, 1996 at Cincinnati State Technical and Community College. The Milford High School team, winners of the double-elimination regional competition, will participate in the National Science Bowl, held in Washington, D.C., during the first weekend of May 1996.

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***Remedial Investigations/Feasibility Studies***

**6.0 Community Relations**

**Status: (continued)**

Several Fairfield High School students participated in a field trip to the Fernald site. The field trip was part of the Partnership for the Advancement of Chemical Technology Ambassador Program. PACT's goals are to advance chemical technology education to create a well-educated, chemistry-based technical work force and to provide continuing education opportunities for practicing technical professionals to meet the changing needs of society.

A "Keep Cincinnati Beautiful" representative requested 40 copies of *The Web: A Resource Guide for the Science Classroom* for a teacher inservice, and the Archdiocese of Cincinnati requested 150 copies so the document could be placed in each school.

**6.1 Planned Activities for February 1996:**

- FERMCO has been working with Technical College Programs to recruit convener candidates from local universities. Two candidates for the convener position have been interviewed. A recommendation on the convener position is expected to be made to the DOE Fernald Area Office during the week of February 5, 1996.
- Fernald's Internet home page is expected to be online by mid-February 1996.

**Issues/Corrective Action:**

None to report.

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**ENCLOSURE A**

**WASTE WATER FLOWS AND RADIONUCLIDE  
CONCENTRATIONS UNDER CA SECTION XXIII.B**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE A**

**Introduction**

The accompanying Effluent Radiation Reports provide, in accordance with the requirements of Section XXIII.B of the Consent Agreement As Amended under CERCLA Sections 120 and 106 (a), data on the daily waste water flows, radionuclide concentrations, and loadings released to the Great Miami River and an estimate of runoff and radionuclide concentrations to Paddy's Run during January 1996. Effective November 1, 1995, the new NPDES permit, 11o00004\*ED, identified the Parshall Flume as the monitoring location for all discharges to the Great Miami River.

**Summary - January 1996**

The total quantity of uranium discharged from the FEMP to the Great Miami River from the Parshall Flume (Outfall 11o00004001) was 15.39 kilograms. The average uranium concentration for the month was 53 ug/L. This is 6.0 % of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

There were no discharges from the Storm Water Retention Basin Spillway (Outfall 11o00004002) to Paddy's Run via the Storm Sewer Outfall Ditch in January 1996.

Based on 4.84 inches of rainfall in January 1996, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 13.75 kilograms.

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**ENCLOSURE A**

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398704  
Cincinnati, Ohio 45239-8704  
9002 M 9501 900212

LOCATION: 11O00004001  
4001 Total Discharge  
Parshall Flume (Effluent to Great Miami River)

DATE: JANUARY 1996

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	Calculated Total U-238 (pCi/l) (1)
1	1.612	32	120	40	0.24	13
2	1.819	32	130	36	0.25	12
3	1.782	21	140	26	0.18	9
4	1.706	15	130	26	0.16	9
5	2.423	14	86	25	0.23	9
6	2.461	21	72	29	0.27	10
7	2.488	21	79	35	0.33	12
8	1.621	20	68	33	0.20	11
9	2.057	24	49	23	0.18	8
10	1.965	14	65	23	0.17	8
11	1.848	16	86	28	0.19	9
12	2.333	16	110	23	0.20	8
13	2.245	20	130	22	0.19	7
14	1.929	12	140	27	0.19	9
15	1.794	19	83	31	0.21	11
16	1.789	16	70	25	0.17	8
17	2.363	22	130	36	0.32	12
18	2.426	18	210	28	0.26	10
19	3.483	100	250	163	2.15	55
20	2.869	18	210	32	0.32	11
21	2.613	**	**	33	0.32	11
22	2.671	**	**	39	0.39	13
23	2.860	**	**	35	0.38	12
24	2.804	**	**	192	2.04	65
25	4.270	**	**	140	2.26	47
26	3.457	**	**	142	1.86	48
27	3.019	**	**	23	0.26	8
28	2.978	**	**	25	0.28	8
29	3.125	**	**	37	0.43	12
30	3.186	**	**	31	0.38	11
31	2.911	**	**	32	0.35	11
Total	76.707	**			15.39	

\*\* Analytical results not yet available.

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR CONTROL AND ABATEMENT OF RADON-222 EMISSIONS MONTHLY PROGRESS REPORT

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ENCLOSURE A

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: 4001 Total Discharge

DATE: JANUARY 1996

	Flow (MGD)	Total Alpha (pCi/l)(2)	Total Beta (pCi/l)(2)	Total U (ug/l)(2)	Total U (kgs)	Calculated Total U-238 (pCi/l)(1)(2)
Avg.	2.474	14	69	53	0.50	18
Max.	4.270	100	250	192	2.26	65
Min.	1.612	12	49	22	0.16	7

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

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**ENCLOSURE A**

**EFFLUENT RADIATION REPORT**

**FACILITY:** Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

**LOCATION:** 11O00004002  
4002 Discharge (Overflow) to Storm Sewer Outfall Ditch  
Stormwater Retention Basin Spillway (Effluent to Paddy's Run)

**DATE:** JANUARY 1996

There was no discharge to Paddy's Run from the Stormwater Retention Basin.

Based on 4.84 inches of rainfall for the month, the uranium discharge to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 13.75 kgs.

The reported 3.09 inches of rainfall for December 1995 has been revised to 3.10 inches. This results in an additional discharge of 0.03 kg of uranium to the Great Miami River.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE  
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**ENCLOSURE B**

**FFCA: INITIAL REMEDIAL MEASURES  
AND OTHER OPEN ACTIONS**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
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**ENCLOSURE B**

**INTRODUCTION**

Enclosure B describes actions undertaken at the FEMP during the period January 1 through January 31, 1996 that are not covered by the reporting requirements of the Amended Consent Agreement under the Comprehensive Environmental Response, Compensation, and Liability Act as amended (CERCLA) Sections 120 and 106(a).

**WORK ASSIGNMENTS AND PROGRESS**

Descriptions of ongoing work progress are presented in the following sections of this report. The status of ongoing work in support of the Federal Facility Compliance Agreement (FFCA) is summarized in Table 1 of Enclosure B. Completed work previously reported upon has been eliminated for the sake of brevity. In this portion of the report and in Table 1, descriptions of actions are presented in a format consistent with that of the FFCA.

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND  
LIABILITY ACT AS AMENDED (CERCLA)**

1. Initial Remedial Measures

*Section C*

K-65 Silo Project - Status information on the K-65 Silo project normally reported in this section is being provided under Operable Unit 4: Silos 1-4.

2. Remedial Investigation/Feasibility Study (RI/FS)

Status information on the Remedial Investigation/Feasibility Study (RI/FS) normally reported in this section is being provided separately in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).

3. Reports and Record Keeping

*Section B*

The RI/FS Monthly Technical Progress Report for December 1995 was transmitted to the U.S. EPA and OEPA on January 18, 1996, as an integral part of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CA/FFCA/FFA-CARE) Monthly Progress Report in accordance with the requirements of Section X of the Amended Consent Agreement.

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**ENCLOSURE B**

**CLEAN AIR ACT (CAA)**

*Section E*

The Quarterly Particulate Emissions Report will now be incorporated into the Annual NESHAP Compliance Report.

**RADIATION DISCHARGE INFORMATION**

*Section A*

This information will now be submitted on an annual basis as part of the FEMP Site Environmental Report.

**REPORTING REQUIREMENTS**

*Section B*

The Federal Facility Compliance Agreement Monthly Progress Report for December 1995, was transmitted to the U.S. EPA and OEPA on January 18, 1996 as Enclosure B of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CA/FFCA/FFA-CARE) Monthly Progress Report.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE B**

**TABLE 1**

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON  
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

<b>ACTION</b>	<b>DESCRIPTION</b>	<b>COMPLETION TIME AFTER FFCA SIGNED</b>	<b>FY1995 STATUS</b>
<b>CERCLA</b>			
1.	INITIAL REMEDIAL MEASURES		
1.C	Implement radon control plan approved by the U.S. EPA.	----	No longer applicable. Progress on actions to address radon emissions from the K-65 Silos are being reported separately under Section IX- Removal Actions of the Consent Agreement/FFCA Monthly Progress Report.
2.	REMEDIAL INVESTIGATION/FEASIBILITY STUDY		No action required.
2.A	RI/FS work is to be conducted in accordance with the U.S. EPA guidelines.	N/A	
2.B	--No Action Required--	----	Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.E	Amend and submit revised RI/FS Work Plan to U.S. EPA if deficiencies are found.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.F	Implement tasks described in the approved RI/FS Work Plan		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA sections 120 and 106(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for December 1995 was transmitted to the U.S. EPA and OEPA on January 18, 1996.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE B**

**TABLE 1**

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON  
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

<b>ACTION</b>	<b>DESCRIPTION</b>	<b>COMPLETION TIME AFTER FFCA SIGNED</b>	<b>FY1995 STATUS</b>
<b>CLEAN AIR ACT</b>			
B.4	Prepare annual progress report installation and replacement of emission control devices.	yearly	The Sixth Annual Progress Report on the installation and replacement of emission control devices was prepared by the Effluent Monitoring and Control Section of the ES&H Division. The report was transmitted to DOE on July 15, 1994.
C.	Provide annual reports to the U.S. EPA per 40 CFR 61.94(c).	yearly	The Annual NESHAP Compliance Report for CY1993 was transmitted to the U.S. EPA on June 29, 1995.
D.1	Provide U.S. EPA with yearly stack-testing schedule.	yearly	No stacks related to production were operating in 1995 or to this date in 1996.  Due to the permanent shutdown of metals production, resumption of the FFCA Stack Testing Program is unlikely. A proposal is being developed to substitute the NESHAP Subpart H testing/monitoring program for the FFCA Stack Testing. When this proposal is completed it will be formally submitted to U.S. EPA.
D.2	Provide U.S. EPA with stack-test results for stacks tested that year.	45 days	No stack tests performed this year.
E.1	Maintain records of monthly particulate matter emissions.	-----	Ongoing.

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**ENCLOSURE B**

**TABLE 1**

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON  
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

<b>ACTION</b>	<b>DESCRIPTION</b>	<b>COMPLETION TIME AFTER FFCA SIGNED</b>	<b>FY1995 STATUS</b>
<b>RCRA</b>			
A.1	Conduct a hazardous waste determination on all waste streams.	30 days	Complete. Pursuant to the Proposed Amended Consent Decree, a RCRA waste evaluation was conducted on all identified waste streams pertaining to the PACD.
A.2	Commence a hazardous waste analysis program for materials in the landfill and going to the incinerator.	30 days	Complete. Operation of these units was discontinued and data on the waste which had gone to them was provided in a 30-day FFCA deliverable on August 17, 1986.
A.5	Update the facility closure plan to reflect the year the facility expects to begin closure.	30 days	The Facility closure date is dependent upon closure schedules for individual TSD units as presented most recently in Section I of the RCRA Part B Permit Application transmitted to the Ohio EPA and the U.S. EPA on March 26, 1993 (DOE-1471-93). Facility closure will be completed on a date the last TSD unit is closed.
<b>REPORTING REQUIREMENTS</b>			
B.	Issue monthly progress report of actions taken to ensure compliance with FFCA requirements.	monthly	December's CA/FFCA Monthly Progress Report was transmitted to the U.S. EPA and OEPA on January 18, 1996.

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**ENCLOSURE C**

**FEDERAL FACILITY AGREEMENT:  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE C**

**Introduction**

The Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA), signed November 19, 1991, requires that a monthly report be submitted to the U.S. EPA regarding all steps undertaken in the preceding month to implement Part V of the agreement and that all data generated as a result of those actions be submitted.

Enclosure C fulfills those requirements by describing steps taken at the FEMP during the period January 1 through January 31, 1996, to implement Part V, Radon-222 Control and Abatement Plan, paragraphs 19-33 of the FFA-CARE.

**Work Assignments and Progress**

In this section of Enclosure C, action descriptions and work progress are presented in a format consistent with that of the FFA-CARE. Immediately following this section are the K-65 Silos Report and the Selected Radon Data Report. Reporting this data is also a requirement included in the U.S. EPA approved Silos 1 and 2 Removal Action Work Plan (Removal Action No. 4).

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
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**ENCLOSURE C**

FFA Part, Paragraph(s)	Description of Commitment	FFA Due Date	Status of Commitment
Part V, 19 & 21	Implement the K-65 Silos 1 and 2 Removal Action in accordance with the approved Silos 1 and 2 Removal Action Work Plan.	12/1/91	Completed.
Part V, 20	Reduce radon-222 to a level As-Low-As Reasonably-Achievable (ALARA) with the goal as specified in the Silos 1 and 2 Removal Action Work Plan.	5/22/92	Completed.
Part V, 22	Submit proposed methodology for estimating radon-222 concentration reductions resulting from completion of the Silos 1 and 2 Removal Action.	Within 60 days of completing removal action; 1/27/92.	Completed.
Part V, 23	Evaluate performance of the removal action and determine whether or not additional actions are needed prior to final remediation.	None specified.	Completed.
Part V, 24, 25, and 33	Demonstrate compliance with NESHAP Subpart Q at the completion of final remediation using a methodology approved by the U.S. EPA. Applicable to: Silos 1, 2, and 3; Waste Pits 1, 2, 3, 4, and 5 and the Clearwell; and any newly discovered radon-222 emission sources.	None specified.	No information to report.
Part V, 26	Directly measure radon-222 flux from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	Radon sampling is complete for Pits 1, 2, and 3. All measurements were below the criteria set by the U.S. EPA. A final report was issued to the U.S. EPA on June 25, 1992. A letter was received from the U.S. EPA on October 16, 1992 giving approval of the proposed method for measuring the radon flux from Pit 4. The letter also stated that since the Clearwell is water covered, and Pit 5 is nearly 100% water covered, the flux from Pit 5 and the Clearwell may be assumed to be zero.

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<b>FFA Part, Paragraph(s)</b>	<b>Description of Commitment</b>	<b>FFA Due Date</b>	<b>Status of Commitment</b>
Part V, 26	Include direct measurement data from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	See above.
Part V, 27	Estimate radon-222 emissions from Silo 3 based upon characterization data; include the estimated radon-222 emission data from Silo 3 in the RI/FS that includes Silo 3 under the CERCLA Consent Agreement.	None specified.	Completed.
Part V, 28	Submit documentation or estimates of current radon-222 emissions from existing but newly discovered sources that contain radium-226 in sufficient concentrations to emit radon-222 in excess of NESHAP Subpart Q prior to final remediation.	Within 30 days of discovery.	No new sources identified.
Part V, 30	Submit methodology for direct measurement or other appropriate means of characterization of the relevant emissions pursuant to paragraph 29 of the FFA.	Within 45 days of the U.S. EPA response pursuant to paragraph 29.	None required.
Part V, 31	Submit results of measurements pursuant to paragraph 30.	Within 30 days of U.S. EPA approval of characterization method.	None required.
Part VI, 31	Submit monthly report on steps undertaken to implement Part V of the FFA-CARE and the data obtained in the preceding month.	20th day of succeeding month.	The progress report being submitted herewith as an integral part of the CERCLA Consent Agreement Monthly Progress Report.

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**ENCLOSURE C**

**Data Reporting Requirements: RA No. 4: Silos 1 and 2**

As defined in the Silos 1 and 2 Removal Action Work Plan and the Federal Facility Agreement, data associated with monitoring the effectiveness of the bentonite installation are included in the following tables: the K-65 Silos Report and the Selected Radon Data Report.

The K-65 Silos Report includes data on the following parameters:

- ambient temperature and pressure near the silos,
- Silos 1 and 2 headspace temperature,
- Silos 1 and 2 differential pressure,
- Silos 1 and 2 radon headspace concentration, and
- Silos 1 and 2 headspace humidity.

The Selected Radon Data Report includes radon data from the following locations:

- Air monitoring station number 5 (AMS-5),
- Air monitoring station number 6 (AMS-6),
- Pilot Plant,
- Background data, and
- K-65 Monitoring Data (K-65 NW, K-65 SW, K-65 NE, K-65 SE).

Per letter dated July 18, 1995, U.S. EPA granted DOE-FN relief from reporting non-radon parameter data. Non-radon data would only need to be reported if the effectiveness of the bentonite was in question.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
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**ENCLOSURE C**

The radon data submitted in Enclosure C: Due to its high source strength, unique measurement methods had to be devised to measure radon emissions from this nonstandard source. The data that has been gathered since 1992 is collected by qualified technicians using detailed procedures. This data although not yet verified, serves as a very good qualitative indicator of the integrity of the bentonite sealant layer covering the residues in the silos. Activities have been initiated to enhance the quality and independently verify the data that is being collected.

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**ENCLOSURE C**

MONTH: JANUARY  
YEAR: 1996

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O. Box 538704  
Cincinnati, Ohio 45253 Hamilton

**K-65 SILO REPORT  
RADON CONCENTRATIONS**

(Daily Summary of Recorded Headspace Concentrations)

REPORT GENERATED: 02/09/96

Daily Statistics	SILO 1				SILO 2			
	Average	Maximum	Minimum	Std. Dev.	Average	Maximum	Minimum	Std. Dev.
01/01/96	1.45E+06	2.08E+06	8.45E+05	4.38E+05	7.31E+06	7.40E+06	7.22E+06	6.91E+04
01/02/96	3.72E+05	7.76E+05	2.00E+05	1.82E+05	7.32E+06	7.36E+06	7.26E+06	2.51E+04
01/03/96	6.73E+05	1.11E+06	3.17E+05	2.00E+05	7.26E+06	7.31E+06	7.19E+06	3.62E+04
01/04/96	7.37E+05	1.42E+06	1.20E+05	4.67E+05	7.53E+06	7.69E+06	7.25E+06	1.35E+05
01/05/96	4.05E+05	6.37E+05	1.74E+05	1.57E+05	7.16E+06	7.50E+06	6.97E+06	1.71E+05
01/06/96	2.21E+05	6.10E+05	8.76E+03	1.89E+05	6.89E+06	7.00E+06	6.69E+06	9.62E+04
01/07/96	1.18E+05	7.37E+05	1.34E+05	2.33E+05	6.28E+06	6.66E+06	5.88E+06	2.33E+05
01/08/96	1.40E+06	1.68E+06	7.99E+05	2.26E+05	6.88E+06	7.42E+06	5.94E+06	4.67E+05
01/09/96	6.78E+05	1.37E+06	1.82E+05	4.17E+05	7.15E+06	7.47E+06	6.82E+06	2.75E+05
01/10/96	9.49E+05	1.53E+06	3.34E+05	3.99E+05	7.17E+06	7.41E+06	6.67E+06	2.11E+05
01/11/96	9.49E+05	1.53E+06	3.34E+05	3.99E+05	7.17E+06	7.41E+06	6.67E+06	2.11E+05
01/12/96	1.32E+06	2.09E+06	3.04E+05	5.80E+05	7.02E+06	7.69E+06	5.88E+06	4.33E+05
01/13/96	8.63E+05	1.54E+06	1.54E+05	4.76E+05	6.16E+06	6.51E+06	5.76E+06	2.65E+05
01/14/96	1.40E+06	1.88E+06	9.91E+05	2.54E+05	6.69E+06	7.41E+06	5.80E+06	6.34E+05
01/15/96	7.25E+05	1.53E+06	2.81E+05	4.38E+05	7.11E+06	7.27E+06	6.93E+06	1.17E+05
01/16/96	1845381.3	2.98E+06	1.86E+06	1.13E+06	5.69E+06	7.89E+06	7.34E+06	3.38E+06
01/17/96	1812209.8	2.63E+06	1.40E+06	3.67E+05	7.04E+06	7.31E+06	6.91E+06	9.83E+04
01/18/96	2952622.4	3.12E+06	2.44E+06	1.62E+05	7.15E+06	7.24E+06	7.03E+06	6.41E+04
01/19/96	904213.45	2.72E+06	4.96E+03	9.00E+05	7.16E+06	7.24E+06	7.09E+06	5.17E+04
01/20/96	1458079.8	1.84E+06	6.82E+05	2.82E+05	7.18E+06	7.25E+06	7.05E+06	6.73E+04
01/21/96	1443783.5	2.08E+06	9.59E+05	3.22E+05	6.95E+06	7.04E+06	6.88E+06	4.51E+04
01/22/96	1857709.2	2.43E+06	1.38E+06	3.71E+05	7.01E+06	7.10E+06	6.86E+06	6.85E+04
01/23/96	2400737.1	3.10E+06	2.09E+06	2.90E+05	7.14E+06	7.22E+06	7.03E+06	7.20E+04
01/24/96	1571618.5	3.12E+06	3.96E+03	1.24E+06	7.12E+06	7.24E+06	6.94E+06	8.85E+04
01/25/96	1032402	2.69E+06	6.74E+04	8.57E+05	6.86E+06	6.96E+06	6.74E+06	7.98E+04
01/26/96	2377018.6	3.13E+06	1.76E+06	4.44E+05	6.95E+06	7.00E+06	6.92E+06	2.50E+04
01/27/96	1054160.1	3.08E+06	5.78E+03	1.15E+06	5.88E+06	6.96E+06	4.61E+06	8.56E+05
01/28/96	1233310.1	2.49E+06	2.16E+04	7.76E+05	6.02E+06	6.71E+06	4.70E+06	6.77E+05
01/29/96	1719305.9	2.82E+06	1.45E+05	1.02E+06	6.33E+06	6.83E+06	5.67E+06	4.51E+05
01/30/96	850811.07	1.26E+06	2.39E+05	2.79E+05	6.56E+06	6.74E+06	6.02E+06	1.81E+05
01/31/96	984446.61	1.17E+06	7.19E+05	1.42E+05	6.62E+06	6.79E+06	6.43E+06	1.29E+05

**Grab Samples of Headspace**

Date:	SILO 1 Concentration	SILO 2 Concentration
(b) 01/04/96	6.83E+05	6.83E+06
(b) 01/16/96	6.85E+05	6.29E+06
(b) 01/22/96	6.10E+06	6.48E+06
(b) 01/26/96	6.00E+06	6.48E+06
(b) 01/30/96	6.08E+06	4.62E+06

- Notes:
- All values reported in pCi/L
  - Continuous data reported to three significant digits to remain consistent with the calibration data.
- \*(a)\* Indicates continuous counting method used for radon concentration calculation.  
\*(b)\* Indicates continuous counting method and 10% efficient lucas cell used for radon concentration calculation.  
\*\*\* Indicates partial or complete data loss due to computer failure.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE C**

MONTH: JANUARY  
YEAR: 1996

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O. Box 538704  
Cincinnati, Ohio 45253 Hamilton

**SELECTED RADON DATA REPORT**

(Monthly Summary of Selected Sampling Locations)

Daily Averages	AMS #5	AMS #6	PILOT PLANT WAREHOUSE		BKGD-1 (Fairfield)	BKGD-2 (Miamitown)	
	(pCi/L)	(pCi/L)	(pCi/L)		(pCi/L)	(pCi/L)	
01/01/96	0.8	0.9	n/a	b	0.7	1.0	
01/02/96	0.6	0.7	n/a	b	0.5	0.4	a
01/03/96	0.7	0.9	n/a	b	0.5	n/a	a
01/04/96	0.6	0.6	n/a	b	0.5	n/a	a
01/05/96	0.6	0.6	0.8		0.5	n/a	a
01/06/96	0.7	1.0	0.7		0.5	n/a	a
01/07/96	0.7	0.9	0.7		0.5	n/a	a
01/08/96	0.9	0.8	1.0		0.5	n/a	a
01/09/96	0.7	0.5	0.8		0.6	n/a	a
01/10/96	1.0	0.6	0.8		0.5	n/a	a
01/11/96	0.9	0.7	0.7		0.5	n/a	a
01/12/96	0.6	0.7	0.8		0.5	0.5	a
01/13/96	0.7	0.8	0.8		0.5	0.5	
12/14/96	1.0	0.7	1.3		0.6	0.6	
01/15/96	0.7	0.5	1.0		0.6	0.6	
01/16/96	0.7	0.5	0.8		0.5	0.5	
01/17/96	0.5	0.5	0.6		0.4	0.4	
01/18/96	0.5	0.5	0.6		0.6	0.6	
01/19/96	0.5	0.4	0.8		0.6	0.6	
01/20/96	0.6	0.5	0.7		0.5	0.5	
01/21/96	0.8	0.5	1.0		0.6	0.6	
01/22/96	0.7	0.5	0.7		0.5	0.5	
01/23/96	0.6	0.6	0.7		0.5	0.5	
01/24/96	0.6	0.5	0.8		0.5	0.5	
01/25/96	0.6	0.6	0.9		0.5	0.6	
01/26/96	0.6	0.6	0.8		0.6	1.1	
01/27/96	0.5	0.5	n/a	b	0.5	1.0	
01/28/96	0.6	0.6	n/a	b	0.6	1.1	
01/29/96	0.6	0.6	n/a	b	1.0	1.3	
01/30/96	0.6	0.6	n/a	b	1.0	1.3	
01/31/96	0.5	0.5	0.5		0.6	1.1	
Monthly Statistics of Daily Averages:	AMS #5	AMS #6	PILOT PLANT WAREHOUSE		BKGD-1 (Fairfield)	BKGD-2 (Miamitown)	
	(pCi/L)	(pCi/L)	(pCi/L)		(pCi/L)	(pCi/L)	
AVERAGE:	0.7	0.6	0.8		0.6	0.6	
MAXIMUM:	1.0	1.0	1.3		1.0	1.3	
MINIMUM:	0.5	0.4	0.5		0.4	0.4	
MEDIAN:	0.6	0.6	0.7		0.5	0.5	
STD. DEV:	0.1	0.1	0.4		0.1	0.3	

STANDARD LEGEND: 1. "(a)" indicates censored data due to erroneous readings from the monitoring equipment.  
2. "(b)" indicates partial or complete data loss due to monitor malfunction.  
3. "(c)" indicates partial or complete data loss due to programming error in monitor.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE C**

MONTH: JANUARY  
YEAR: 1996

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O. Box 538704  
Cincinnati, Ohio 45253 Hamilton

**SELECTED RADON DATA REPORT**  
(Monthly Summary of Selected Sampling Locations)

Daily Averages	K65-NW	K65-SW	K65-NE	K65-SE
	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
01/01/96	2.3	5.7	1.3	1.5
01/02/96	1.1	2.5	0.7	0.6
01/03/96	1.0	0.7	2.5	2.5
01/04/96	1.3	1.2	1.7	1.4
01/05/96	1.1	1.8	0.9	0.7
01/06/96	1.3	3.8	1.0	0.7
01/07/96	1.2	2.3	1.0	0.7
01/08/96	1.4	0.8	4.2	1.4
01/09/96	1.1	0.7	3.3	1.4
01/10/96	1.3	1.5	3.1	2.7
01/11/96	3.3	7.5	0.9	1.0
01/12/96	0.9	0.9	2.1	2.1
01/13/96	1.7	0.9	2.8	1.0
12/14/96	1.6	1.5	10.0	8.8
01/15/96	1.7	4.4	1.2	1.3
01/16/96	2.0	2.6	3.2	3.3
01/17/96	0.8	0.5	0.6	0.4
01/18/96	0.8	0.5	1.5	0.6
01/19/96	1.3	1.0	9.1	2.9
01/20/96	4.6	4.6	6.0	3.2
01/21/96	4.1	2.6	13.3	8.9
01/22/96	3.5	1.6	5.5	2.8
01/23/96	3.9	1.4	1.1	0.7
01/24/96	0.9	0.6	4.0	2.5
01/25/96	2.2	0.7	2.1	1.4
01/26/96	3.6	2.1	1.4	0.9
01/27/96	0.8	1.1	4.0	0.9
01/28/96	5.7	1.2	4.1	2.4
01/29/96	1.2	4.5	1.3	1.4
01/30/96	1.0	5.7	0.9	1.5
01/31/96	1.3	4.3	4.2	3.0
Monthly Statistics of Daily Averages:	K65-NW	K65-SW	K65-NE	K65-SE
	(pCi/L)	(pCi/L)	(pCi/L)	(pCi/L)
AVERAGE:	1.9	2.3	3.2	2.1
MAXIMUM:	5.7	7.5	13.3	8.9
MINIMUM:	0.8	0.5	0.6	0.4
MEDIAN:	1.3	1.5	2.1	1.4
STD. DEV:	1.3	1.8	2.9	2.0

STANDARD LEGEND: 1. \*(a)\* indicates censored data due to erroneous readings from the monitoring equipment.  
2. \*(b)\* indicates partial or complete data loss due to monitor malfunction.  
3. \*(c)\* indicates partial or complete data loss due to programming error in monitor.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

**PERIOD ENDING JANUARY 31, 1996**

**ENCLOSURE D**

**EFFLUENT RADIATION DISCHARGES TO THE GREAT MIAMI RIVER**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

**Period Ending January 31, 1996**

**ENCLOSURE D**

**Introduction**

Enclosure D lists monthly discharges to the Great Miami River. This information is required by the DOE/U.S. EPA Agreement Resolving Dispute Concerning Denial of Request for Extension of Time to Submit Operable Unit 2 Document and discussed in the "Addendum No. 1 to the South Groundwater Contamination Plume Removal Action Parts 2 and 3 Work Plan."

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

**Period Ending January 31, 1996**

**ENCLOSURE D  
EFFLUENT RADIATION REPORT**

**FACILITY:** Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

**LOCATION:** [SP1]  
IAWWT - T108 (SWRB) Discharge  
Interim Advanced Wastewater Treatment Effluent

**DATE:** DECEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.000							
2	0.000							
3	0.000							
4	0.000							
5	0.000							
6	0.000							
7	0.000							
8	0.065	1.1	6.0	1.9	0.0005 <	2.0	8.0	8.0
9	0.140	2.6	9.4	4.0	0.0021	5.2	8.0	8.2
10	0.103	11.0	9.3	20.5	0.0080	2.0	8.1	8.1
11	0.138	9.8	13.0	19.2	0.0100 <	2.0	8.0	8.7
12	0.103	7.0	7.0	11.8	0.0046 <	2.0	7.9	7.9
13	0.164	4.8	5.3	6.4	0.0040 <	2.0	7.9	7.9
14	0.168	4.9	5.4	6.5	0.0041 <	2.0	8.6	8.7
15	0.147	3.9	5.1	6.9	0.0038 <	2.0	8.6	8.7
16	0.170	3.3	5.2	6.9	0.0044 <	2.0	8.7	8.8
17	0.170	2.6	4.6	4.1	0.0026	2.6	8.7	8.7
18	0.170	2.2	4.2	2.7	0.0017	5.2	8.6	8.7
19	0.171	2.1	4.5	1.0	0.0006	3.4	8.6	8.8
20	0.078	3.3	5.8	4.5	0.0013	6.4	8.8	9.0
21	0.000							
22	0.000							
23	0.000							
24	0.000							
25	0.000							
26	0.000							
27	0.099	1.5	7.0	2.6	0.0010	2.4	8.1	8.2
28	0.152	4.5	6.0	9.0	0.0052 <	2.0	8.1	8.2
29	0.155	2.8	5.5	5.1	0.0030 <	2.0	8.1	8.2
30	0.149	2.5	5.4	7.1	0.0040 <	2.0	8.1	8.2
31	0.199	5.2	5.9	6.8	0.0051 <	2.0	8.1	8.2
<b>Total</b>	<b>2.541</b>				<b>0.0662</b>			

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR CONTROL AND ABATEMENT OF RADON-222 EMISSIONS MONTHLY PROGRESS REPORT

Period Ending January 31, 1996

ENCLOSURE D

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1] IAWWT - T108

DATE: DECEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.082	4.1	6.2	6.9	0.0037
Max.	0.199	11.0	13.0	20.5	0.0100
Min.	0.000	1.1	4.2	1.0	0.0005

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: [SP1]  
IAWWT - T109 (SWRB) Discharge  
Interim Advanced Wastewater Treatment Effluent

DATE: DECEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.198	8.4	10.0	13.9	0.0104 <	2.0	9.4	9.5
2	0.214	7.6	10.0	13.3	0.0108 <	2.0	9.0	9.4
3	0.216	7.4	10.0	13.6	0.0111 <	2.0	9.0	9.0
4	0.220	6.7	10.0	13.6	0.0113 <	2.0	9.0	9.3
5	0.198	2.6	9.0	5.1	0.0038 <	2.0	8.3	9.1
6	0.194	2.9	10.0	5.2	0.0038 <	2.0	8.3	8.3
7	0.219	3.1	11.0	4.7	0.0039	3.0	8.0	8.3
8	0.198	2.8	10.0	5.1	0.0038	2.6	8.0	8.0
9	0.133	4.2	10.0	7.1	0.0036	3.0	8.0	8.2
10	0.109	23.0	24.0	40.2	0.0166 <	2.0	8.1	8.1
11	0.140	5.9	8.9	10.5	0.0056 <	2.0	8.0	8.7
12	0.131	7.5	11.0	9.8	0.0049 <	2.0	7.9	7.9
13	0.162	7.0	12.0	11.7	0.0072 <	2.0	7.9	7.9
14	0.171	6.8	12.0	13.2	0.0085 <	2.0	8.6	8.7
15	0.152	7.4	9.5	13.1	0.0075	2.4	8.6	8.7
16	0.173	5.1	5.4	11.2	0.0073	2.2	8.7	8.8
17	0.167	3.1	5.3	5.4	0.0034	3.2	8.7	8.7
18	0.169	2.4	4.2	3.6	0.0023	3.6	8.6	8.7
19	0.174	1.5	3.5	1.2	0.0008	2.8	8.6	8.8
20	0.180	1.9	4.7	1.5	0.0010	4.4	8.8	9.0
21	0.216	3.3	5.8	3.7	0.0030	2.0	8.7	8.9
22	0.212	1.7	4.9	2.3	0.0018	2.0	8.6	8.7
23	0.216	1.2	4.4	2.0	0.0016	3.8	8.6	8.6
24	0.215	2.0	5.8	2.9	0.0024	2.6	8.6	8.8
25	0.216	1.3	8.8	2.1	0.0017	3.0	8.8	8.9
26	0.172	1.9	5.3	1.4	0.0009	2.4	8.2	9.1
27	0.194	1.8	5.0	2.1	0.0015	2.0	8.1	8.2
28	0.163	4.9	7.0	8.6	0.0053 <	2.0	8.1	8.2
29	0.169	4.0	5.4	7.4	0.0047 <	2.0	8.1	8.2
30	0.165	5.9	6.4	11.0	0.0069 <	2.0	8.1	8.2
31	0.205	***	***	10.5	0.0081 <	2.0	8.1	8.2
Total	5.661				0.1658			

\*\*\* Analytical results not yet available.

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR CONTROL AND ABATEMENT OF RADON-222 EMISSIONS MONTHLY PROGRESS REPORT

Period Ending January 31, 1996

ENCLOSURE D

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP1] IAWWT - T109

DATE: DECEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.183	4.3	7.8	7.7	0.0053
Max.	0.220	23.0	24.0	40.2	0.0166
Min.	0.109	***	***	1.2	0.0008

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

**Period Ending January 31, 1996**

**ENCLOSURE D  
EFFLUENT RADIATION REPORT**

**FACILITY:** Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

**LOCATION:** [606]  
SWRB Pump Station Discharge  
Stormwater Retention Basin Effluent

**DATE:** DECEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)
1	0.000				
2	0.000				
3	0.000				
4	0.000				
5	0.737	190	280	301	0.84
6	0.732	160	210	236	0.65
7	0.742	220	270	276	0.78
8	0.829	170	300	287	0.90
9	0.793	180	300	266	0.80
10	0.000				
11	0.000				
12	0.000				
13	0.000				
14	0.000				
15	0.000				
16	0.000				
17	1.004	210	180	342	1.30
18	1.080	190	150	321	1.31
19	1.592	210	110	289	1.74
20	1.630	250	140	356	2.19
21	0.888	290	160	402	1.35
22	0.905	300	140	415	1.42
23	0.910	250	140	381	1.31
24	0.900	270	160	393	1.34
25	0.899	300	160	401	1.37
26	0.866	260	170	439	1.44
27	0.964	320	150	410	1.49
28	0.000				
29	0.000				
30	0.000				
31	0.000				
	15.471				20.24

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE D**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (606) SWRB

DATE: DECEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.499	237	179	346	1.27
Max.	1.630	320	300	439	2.19
Min.	0.000	160	110	236	0.65

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: [605]  
Biodenitrification Tower  
BDN Tower Effluent

DATE: DECEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)
1	0.128	850	16000	2008	0.97
2	0.038	870	16000	2052	0.30
3	0.101	980	15000	2052	0.78
4	0.107	940	14000	2234	0.90
5	0.110	880	12000	1809	0.75
6	0.105	910	13000	1774	0.70
7	0.106	1000	15000	1757	0.70
8	0.108	950	13000	2048	0.84
9	0.107	900	13000	2048	0.83
10	0.107	820	13000	2006	0.81
11	0.107	800	13000	2008	0.81
12	0.109	860	13000	1924	0.79
13	0.103	830	13000	1968	0.77
14	0.036	880	13000	1990	0.27
15	0.109	760	12000	1881	0.78
16	0.108	750	12000	1924	0.79
17	0.104	670	12000	1802	0.71
18	0.105	700	11000	1673	0.67
19	0.113	720	12000	1513	0.65
20	0.108	730	11000	1445	0.59
21	0.111	770	9600	1624	0.68
22	0.115	780	11000	1422	0.62
23	0.114	640	11000	1179	0.51
24	0.114	580	10000	1204	0.52
25	0.116	640	11000	1258	0.55
26	0.111	650	12000	1311	0.55
27	0.114	730	8200	1284	0.55
28	0.113	640	11000	1158	0.50
29	0.115	580	10000	1364	0.59
30	0.111	720	11000	1506	0.63
31	0.115	700	11000	1557	0.68
<b>Total</b>	<b>3.268</b>				<b>20.81</b>

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR CONTROL AND ABATEMENT OF RADON-222 EMISSIONS MONTHLY PROGRESS REPORT

Period Ending January 31, 1996

ENCLOSURE D

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: (605) BDN/ETS

DATE: DECEMBER 1995

	Flow (MGD)	Total Alpha(2) (pCi/l)	Total Beta(2) (pCi/l)	Total U (ug/l)(2)	Total U (kgs)
Avg.	0.105	775	12069	1682	0.67
Max.	0.128	1000	16000	2234	0.97
Min.	0.036	580	8200	1158	0.27

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE D**

EFFLUENT REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: [605]  
Biodenitrification Tower  
BDN Tower Effluent

DATE: DECEMBER 1995

Day	C-BOD5 (mg/l)	TSS (mg/l)	NH3-N (mg/l)	NO3-N (mg/l)	Chromium (ug/l)	Copper (ug/l)	Nickel (ug/l)	Hex-Chrom (ug/l)
1								
2								
3		#	#	#	9.9	#	#	#
4								
5	3.24							
6								
7								
8								
9								
10								
11		#	#	#	10.6	#	#	#
12	3.17							
13								
14								
15								
16								
17								
18								
19	3.40	#	#	#	8.5	#	#	#
20								
21								
22								
23								
24								
25								
26	1.55							
27		#	#	#	8.2	#	#	#
28								
29								
30								
31								

# Monitoring no longer required under the new NPDES permit.

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
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Period Ending January 31, 1996

ENCLOSURE D

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: [SP2]  
Stormwater Retention Basin Emergency Bypass  
SWRB Bypass Effluent

DATE: DECEMBER 1995

Day	Flow (MGD)
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000
18	0.000
19	0.547
20	0.773
21	0.000
22	0.000
23	0.000
24	0.000
25	0.000
26	0.000
27	0.000
28	0.000
29	0.000
30	0.000
31	0.000
Total	1.320

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: Valve House  
South Groundwater Contamination Plume

DATE: DECEMBER 1995

Day	Flow (MGD)	Total U (ug/l)	Total U (kgs)
1	2.062	17.6	0.14
2	2.047	17.0	0.13
3	1.983	17.2	0.13
4	2.191	17.3	0.14
5	1.982	19.7	0.15
6	2.194	6.5	0.05
7	1.929	18.4	0.13
8	2.091	10.6	0.08
9	1.983	8.6	0.06
10	2.050	19.6	0.15
11	2.051	18.6	0.14
12	2.079	20.8	0.16
13	1.985	18.7	0.14
14	2.103	18.1	0.14
15	2.040	18.8	0.15
16	1.957	19.2	0.14
17	2.172	19.5	0.16
18	1.933	20.8	0.15
19	1.999	18.1	0.14
20	2.215	18.3	0.15
21	1.855	3.4	0.02
22	2.073	18.2	0.14
23	2.141	19.1	0.15
24	2.021	18.9	0.14
25	1.951	17.9	0.13
26	2.300	22.4	0.20
27	2.168	18.6	0.15
28	1.696	19.0	0.12
29	2.090	19.6	0.16
30	2.052	19.5	0.15
31	2.038	18.9	0.15
Total	63.431		4.18

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT

Period Ending January 31, 1996

ENCLOSURE D

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project  
LOCATION: South Plume  
DATE: DECEMBER 1995

	Flow (MGD)	Total U (ug/l)(2)	Total U (kgs)
Avg.	2.046	17.4	0.13
Max.	2.300	22.4	0.20
Min.	1.696	3.4	0.02

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

Period Ending January 31, 1996

**ENCLOSURE D**

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: [SP3]  
Valve House  
South Plume/Stormwater Retention Basin \*/BDN-ETS \*\*

DATE: DECEMBER 1995

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (Grab (S.U.))
1	2.190	21	750	35	0.29		7.2
2	2.085 <	7	750	27	0.21		7.2
3	2.084	17	470	25	0.20		7.0
4	2.298	16	520	28	0.24		7.2
5	2.829 <	7	520	23	0.25		7.2
6	3.031	12	510	21	0.24		7.3
7	2.777	25	460	21	0.22	3.4	7.3
8	3.028	13	440	19	0.22		7.3
9	2.883	10	390	22	0.24	#	6.9
10	2.157	26	580	39	0.32		6.7
11	2.158	31	500	45	0.37		6.8
12	2.188	20	57	32	0.27		6.8
13	2.088	18	62	25	0.20		7.0
14	2.139	7	38	19	0.15	2.6	7.0
15	2.149	20	95	19	0.15		6.8
16	2.065	13	67	18	0.14		7.3
17	3.280	14	68	16	0.20		7.4
18	3.118	8	53	15	0.18		7.3
19	3.704	22	72	31	0.43		7.2
20	3.953	41	87	66	0.99		7.3
21	2.854	16	67	27	0.29 <	2.0	7.3
22	3.093	15	67	28	0.33		7.2
23	3.165	18	64	30	0.36		7.2
24	3.035	24	72	35	0.40		7.2
25	2.966	17	65	35	0.39		7.2
26	3.277	28	98	43	0.53		7.1
27	3.246	28	73	47	0.58		7.3
28	1.809	79	110	120	0.82	4.8	7.3
29	2.205	100	130	170	1.42		7.4
30	2.163	62	150	98	0.80		7.3
31	2.153	32	120	56	0.46		7.3
Total	82.170				11.89		

\* Effective 3/11/94, the SWRB discharges were combined with the South Plume.  
\*\* Effective 1/27/95, the BDN-ETS discharges were routed from MH #175 to the AWWT.

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT

Period Ending January 31, 1996

ENCLOSURE D

EFFLUENT REPORT

FACILITY: Fernald Environmental Management Project  
U.S. Department of Energy  
7400 Willey Road, P.O.Box 398705  
Cincinnati, Ohio 45239-8705  
9002 M 9501 900212

LOCATION: [SP4]  
Parshall Flume  
Effluent Downstream of Manhole 176B

DATE: DECEMBER 1995

Day	Flow (MGD)	DO (mg/l)	IRON (mg/l)	MANGANESE (mg/l)
1	1.745			
2	1.666			
3	1.700			
4	1.820			
5	2.586			
6	2.479			
7	2.500	10.4	0.14	< 0.1
8	2.645			
9	2.457			
10	1.718			
11	1.722			
12	1.704			
13	1.758			
14	1.653	8.7	0.32	< 0.1
15	1.745			
16	1.767			
17	2.490			
18	2.771			
19	3.318			
20	3.402			
21	2.618	9.9	0.26	0.2
22	2.636			
23	2.545			
24	2.556			
25	2.514			
26	2.494			
27	2.686			
28	1.673	9.0	0.20	< 0.1
29	1.657			
30	1.621			
31	1.658			
Total	68.304			

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY  
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR  
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS  
MONTHLY PROGRESS REPORT**

**Period Ending January 31, 1996**

**ENCLOSURE D**

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: [SP4] Parshall Flume

DATE: DECEMBER 1995

	<u>Flow (MGD)</u>	<u>DO (mg/l)</u>	<u>Fe<sup>+</sup> (mg/l)</u>	<u>Mn<sup>+</sup> (mg/l)</u>
Avg.	2.203	9.5	0.22	0.1
Max.	3.402	10.4	0.32	0.2
Min.	1.621	8.7	0.14	0.1

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(\*) Average values presented are flow-weighted.

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